

## REMARKS

**Interview Summary**

Applicants thank examiner Daniel S. Larkin for meeting with applicants' representative James Balls on November 24, 2008 to discuss the instant application. The examiner and applicants' representative discussed the content of Castillo *et al.*, U.S. Patent No. 6,019,946 ("Castillo *et al.*") since it formed the basis of an outstanding obviousness rejection. The claims recite that an induction portion of a combustion-type gas sensor comprises "not less than 30 percent by weight" of an oxidation catalyst. A previous examiner concluded that example 2 of Castillo *et al.* rendered the claims obvious because example 2 describes a "catalytic ink composed of 70% catalyst A.". See Advisory Action mailed July 9, 2008. It appears the previous examiner believed that "catalyst A" of Castillo *et al.* is pure oxidation catalyst and therefore overlapped with the claimed range of "not less than 30%" by weight of oxidation catalyst. This assumption, however, is incorrect. Although Castillo *et al.* refers to its catalytic component as "catalyst A", catalyst A is not 100% oxidation catalyst. The content of catalyst A is disclosed in example 1, and according to the calculations below (also presented in applicants' previous response) the amount of oxidation catalyst in "catalyst A" is about 3.0%.

**Catalyst A (Example 1)**

Platinum Amine Hydroxide Salt (18.54% Pt)	46.6 g (18.54% Pt) = 8.6 g (Pt)
gamma Alumina powder	123.6 g
Platinum Amine Hydroxide Salt (18.54% Pt)	1.5 g (18.54% Pt) = 0.3 g (Pt)
Ceria Zirconia Powder	92.6 g
Rhodium Nitrate	18.5 g (10.08% Rh) = 1.9 g (Rh)
gamma Alumina powder	123.6 g
Zirconia hydroxide	35.0 g (27% solids) = 9.5 g (solids)

Oxidation catalyst = 8.6 g (Pt) + 0.3 g (Pt) + 1.9 g (Rh) = 10.8 g

Insulator = 123.6 g (alumina) + 92.6 g (zirconia) + 123.6 g (alumina) + 9.5 g (zirconia) = 349.3 g

$$\% \text{ Oxidation Catalyst} = \frac{10.8 \text{ g}}{10.8 \text{ g} + 349.3 \text{ g}} \times 100 = \underline{\underline{3.0\%}}$$

In example 2, catalyst A (70%) is mixed with glass frit (14%) and ethyl cellulose (16%) so that the amount of oxidation catalyst in this final mixture is about 2.1% — far below the claimed amount of “not less than 30 percent by weight”.

The previous examiner also suggested that the above calculation is misleading because it only accounts for the platinum and does not account for platinum oxide. These concerns are not clear since catalyst A is not formulated with platinum oxide but uses platinum and rhodium and the calculation above includes both platinum and rhodium. Furthermore, if the previous examiner was mistakenly suggesting that the entire molecular weight of the platinum amine hydroxide salt (in an aqueous solution) and the rhodium nitrate (in an aqueous solution) should be included in the calculation of the oxidation catalyst, the amount of oxidation catalyst would still be far below 30% by weight and distinguishable over the claims.

In light of the clarifications discussed during the November 24, 2008 interview (summarized above), applicants’ previous arguments, and the data presented in the specification, applicants believe that the examiner agreed the instant claims are distinguishable over Castillo *et al.* and should be allowed.

The examiner noted that the specification included reference to specific claim numbers, including claims that have been amended during prosecution or withdrawn from consideration and therefore requested that applicants amend the specification to remove them. Accordingly, applicants have amended the language of the specification without prejudice or disclaimer beginning on page 3, line 15 through page 7, line 7, to remove claim numbers and refer to each recitation as an embodiment. No new matter has been added into the specification.

In view of the above, consideration and allowance are respectfully solicited.

In the event the Examiner believes an additional interview might serve in any way to advance the prosecution of this application, the undersigned is available at the telephone number noted below.

The Office is authorized to charge any necessary fees to Deposit Account No. 22-0185.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 21398-00036-US1 from which the undersigned is authorized to draw.

Dated: December 2, 2008

Respectfully submitted,

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